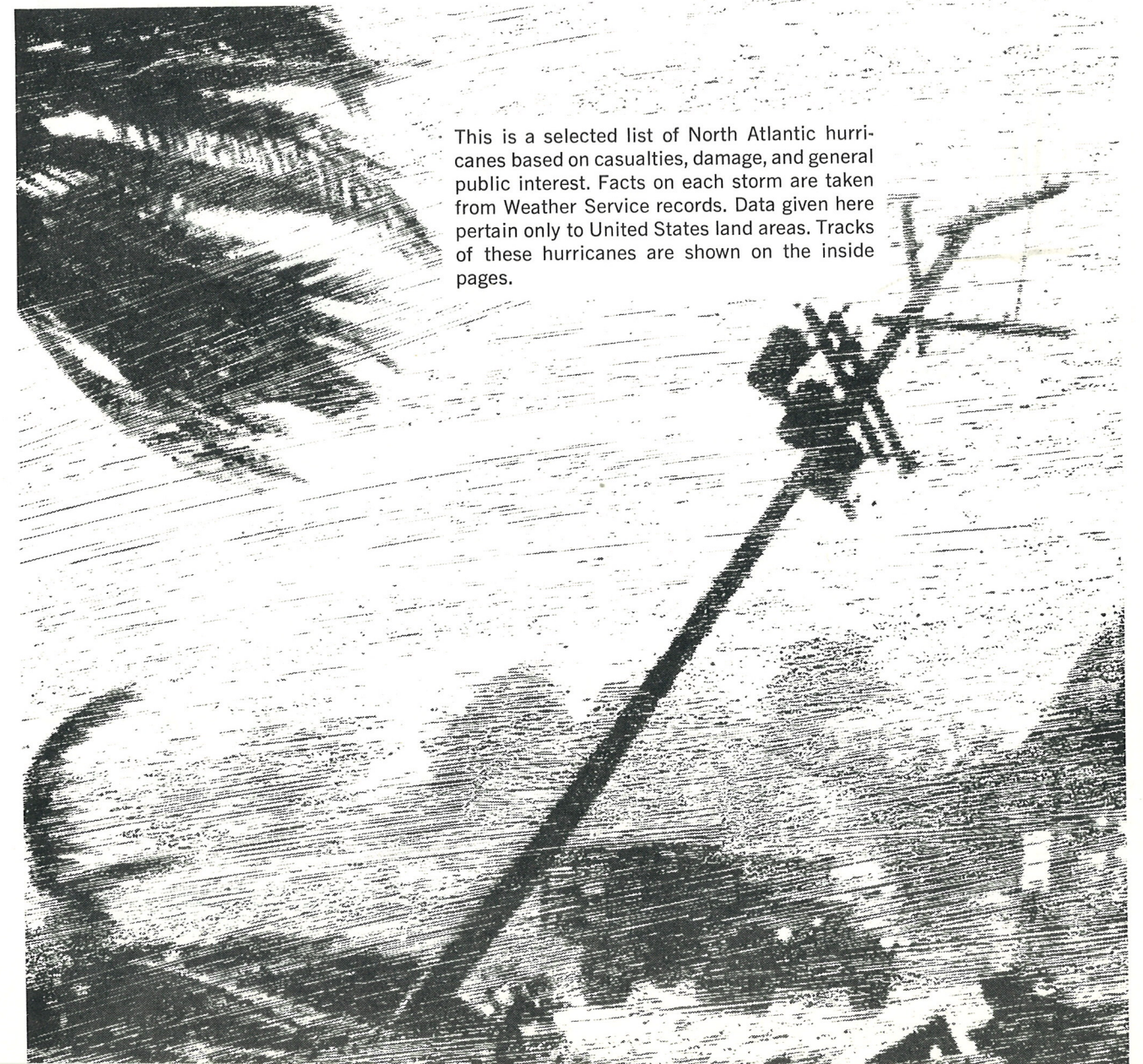


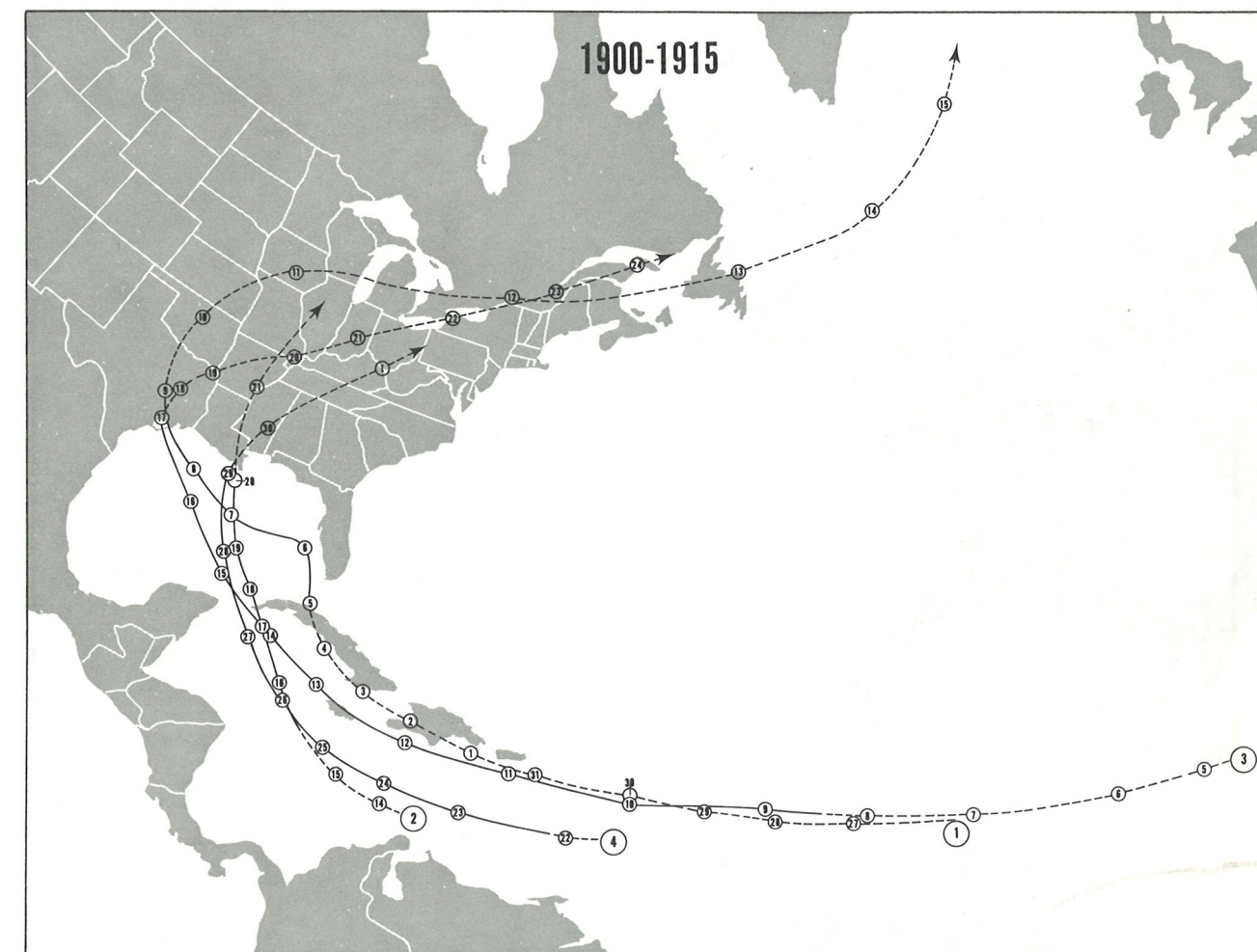


Some Devastating North Atlantic Hurricanes of the 20th Century

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration



This is a selected list of North Atlantic hurricanes based on casualties, damage, and general public interest. Facts on each storm are taken from Weather Service records. Data given here pertain only to United States land areas. Tracks of these hurricanes are shown on the inside pages.



--- Pre and Post Hurricane Stages
 — Hurricane Stage

DATES OF HURRICANE	AREAS MOST AFFECTED	LAND STATION WITH HIGHEST WIND SPEED*	DEATHS (U.S. ONLY)	DAMAGE BY CATEGORY#	DAMAGE
1. 1900, August 27-September 15	Texas	Galveston, Tex. 77 mph [†] * gust, E 120 mph	6,000	7	Principal damage and most loss of life caused by storm tide which inundated Galveston Island.
2. 1909, September 14-21	Louisiana and Mississippi	New Orleans, La. 53 mph [‡]	350	6	Hurricane center passed 50 to 75 miles west of New Orleans. Winds were much stronger in that area. Wide extent of Louisiana coast inundated.
3. 1915, August 5-25	Texas and Louisiana	Galveston, Tex. 92 mph gust, 120 mph	275	7	Twelve-foot storm tide inundated Galveston to a depth of 5 to 6 feet.
4. 1915, September 22-October 1	Middle Gulf Coast	Burrwood, La. 106 mph	275	7	Ninety percent of buildings destroyed over a large area of Louisiana south of New Orleans. Many casualties due to persons remaining in low-lying areas despite warnings.

The figures published are merely approximations of fact. Since errors in dollar estimates vary in proportion to the total damage, storms are placed in categories varying from 1 to 9 as follows:

1 Less than \$50 4 \$5,000 to \$50,000 7 \$5,000,000 to \$50,000,000
 2 \$50 to \$500 5 \$50,000 to \$500,000 8 \$50,000,000 to \$500,000,000
 3 \$500 to \$5,000 6 \$500,000 to \$5,000,000 9 \$500,000,000 to \$5,000,000,000

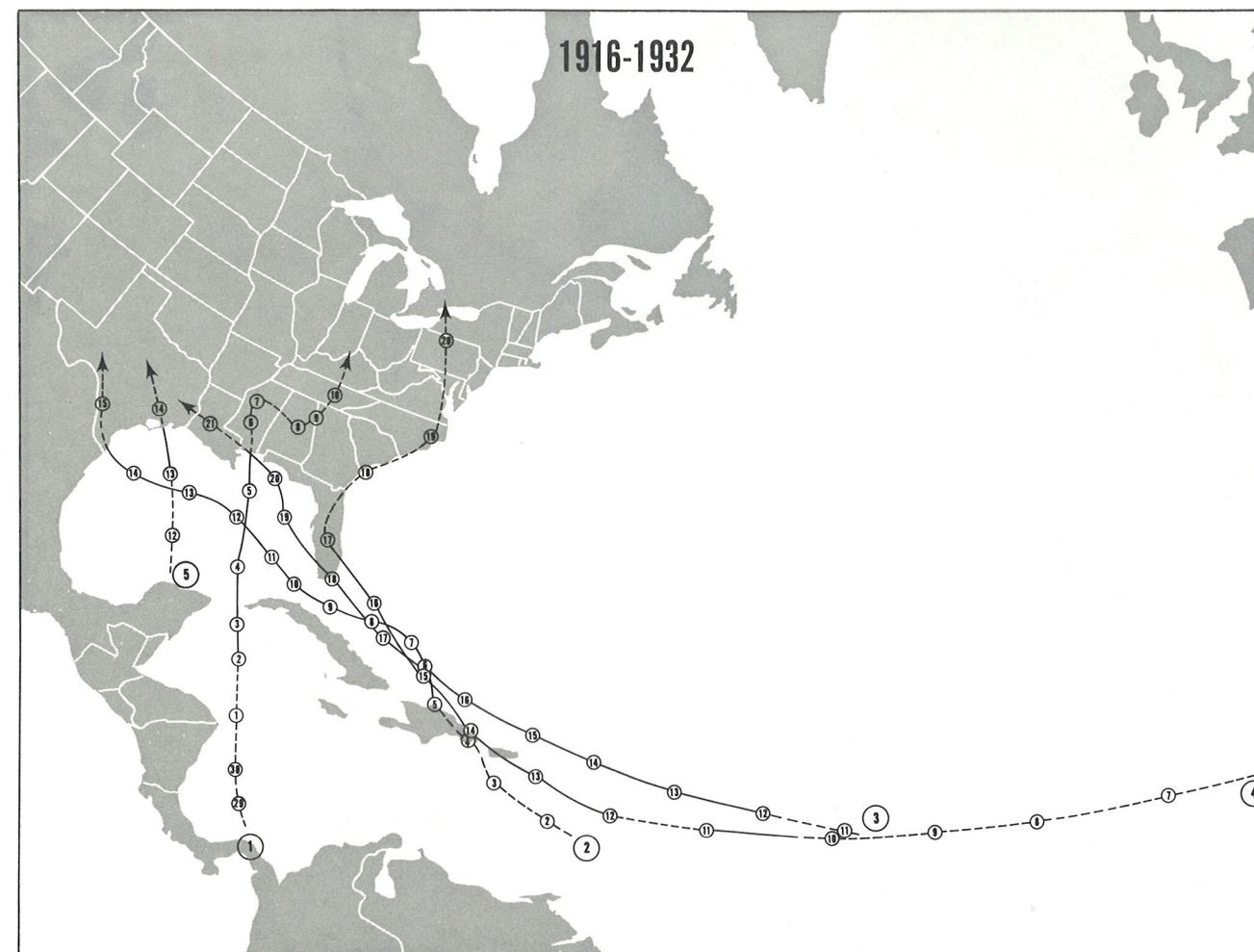
* Fastest one mile unless otherwise noted.

† Wind measuring equipment disabled at speed indicated. Highest winds probably higher.

‡ One-minute maximum speed.

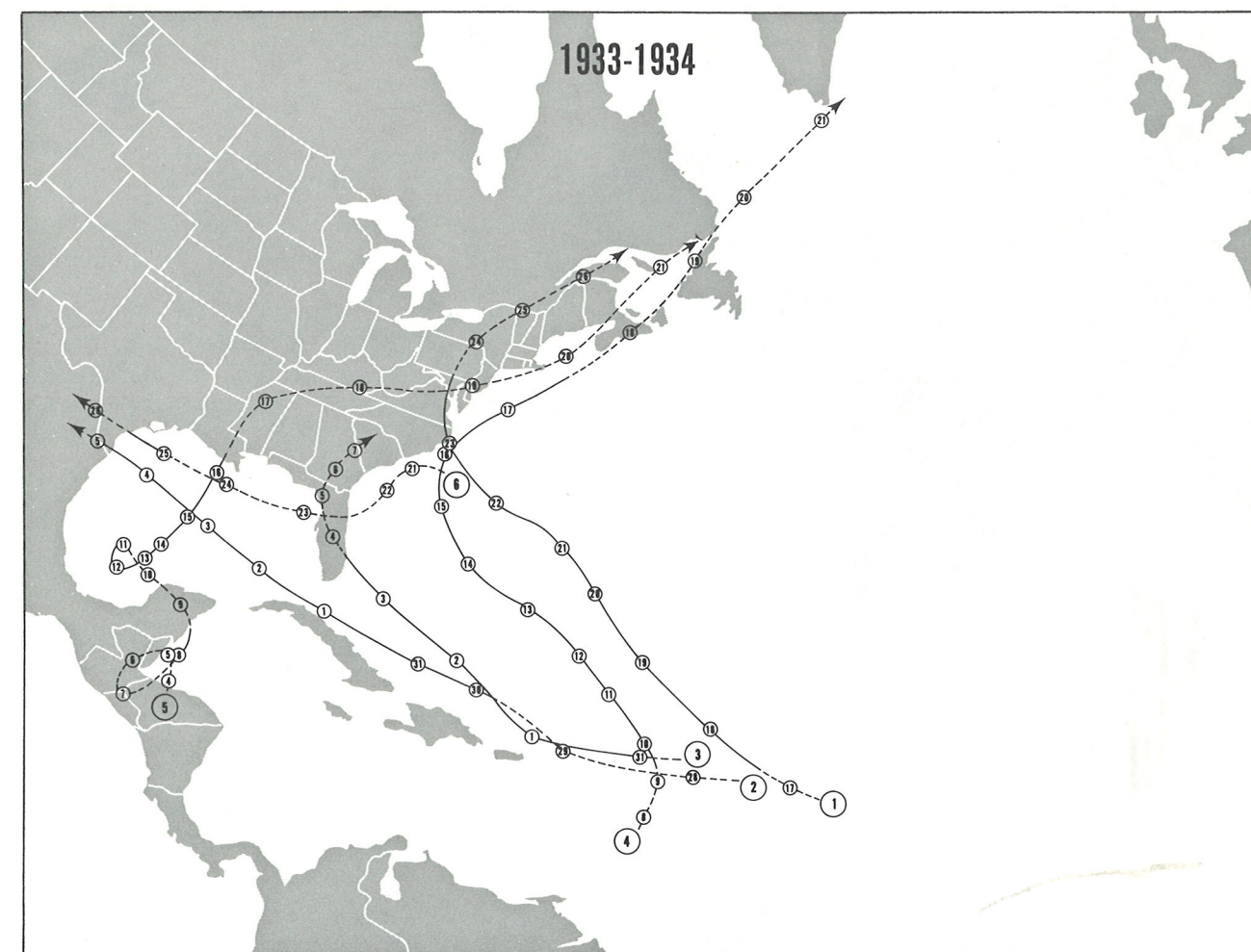
§ Five-minute maximum speed.

E Estimated.



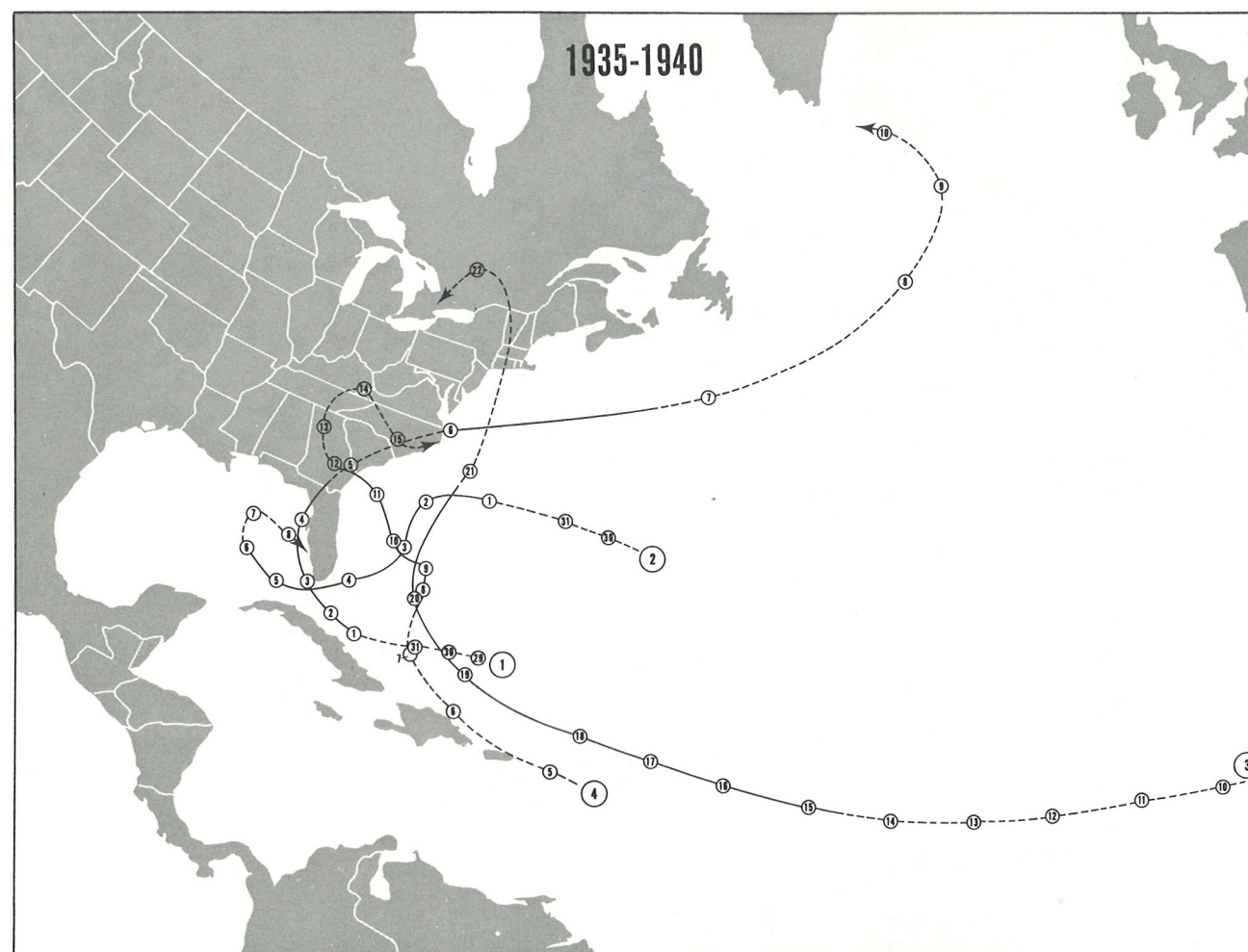
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1. 1916, June 29-July 10	Mississippi to northern Florida	Mobile, Ala. 99 mph	7	6	Very destructive along the coast from Mobile to Pensacola.
2. 1919, September 2-15	Florida, Louisiana and Texas	Sand Key, Fla. 72 mph ^{3†}	287	7	Hurricane was severe both in Florida and in Texas. Over 500 casualties in ships lost at sea.
3. 1926, September 11-22	Florida and Alabama	Miami, Fla. 96 mph, Miami Beach, Fla. gust, 132 mph	243	8	Very severe in the Miami area and from Pensacola into southern Alabama.
4. 1928, September 6-20	Southern Florida	Lake Okeechobee, Fla. 75 mph ³	1,836	7	Wind-driven waters of Lake Okeechobee overflowed into populated areas, causing most of the casualties.
5. 1932, August 11-14	Texas	East Columbia, Tex. 100 mph, E	40	7	Hurricane was small in diameter: winds damaged rice and some cotton near the coast, but accompanying rains were beneficial to the drier interior areas.



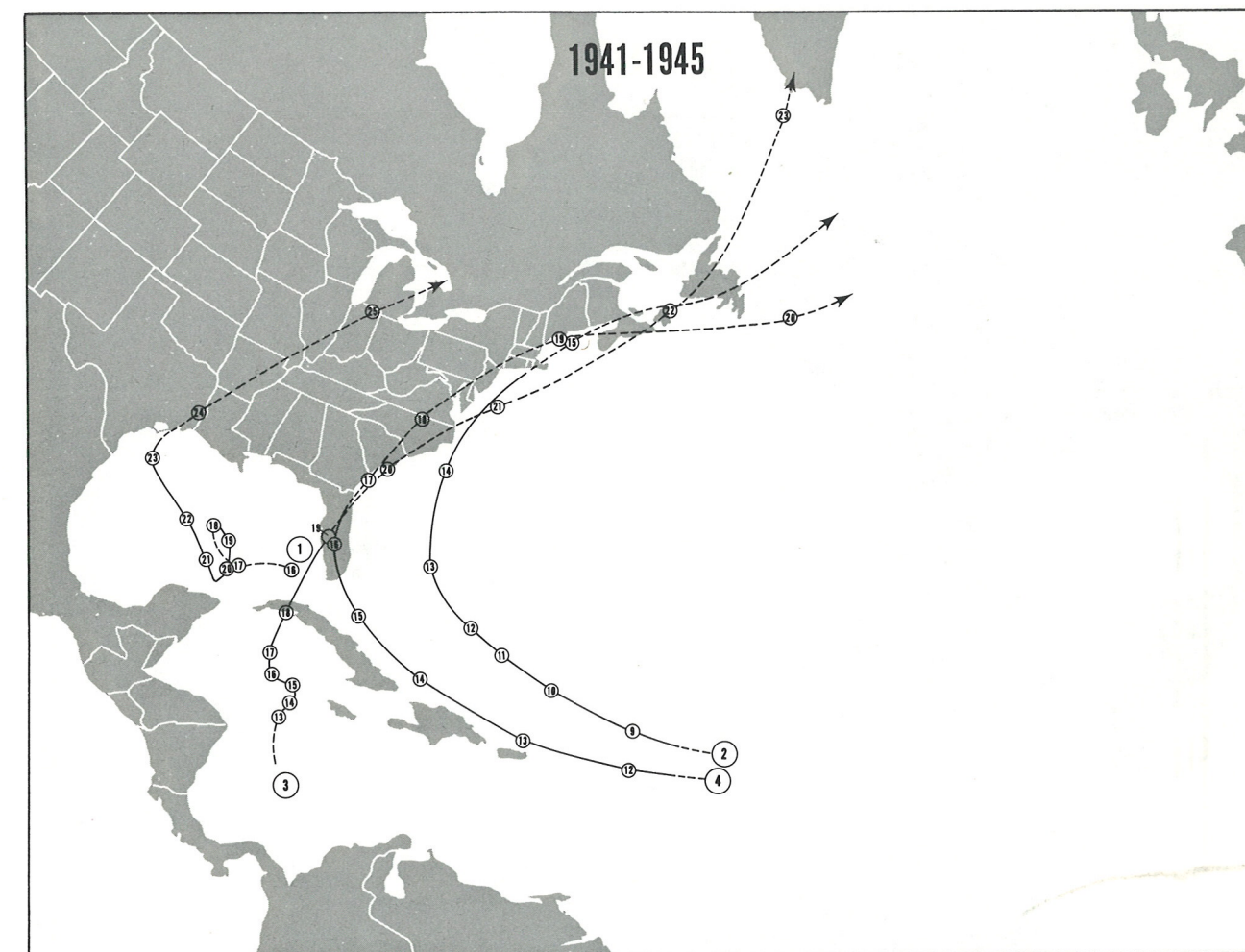
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1. 1933, August 17-26	North Carolina, Virginia, Maryland	Cape Henry, Va. 68 mph	0	7	Heavy damage in northeastern North Carolina; downtown Norfolk flooded; great damage to resorts on Maryland, Delaware, and New Jersey coasts; crop damage heavy in Maryland and Virginia.
2. 1933, August 28 - September 5	Texas	Brownsville, Tex. 80 mph	40	7	Heavy property damage from Corpus Christi to northeastern Mexico; citrus crop almost completely destroyed.
3. 1933, August 31-September 7	Florida	Jupiter Inlet 125 mph	2	6	Much property damage on the coast from Vero Beach; property damage inland was minor; citrus loss nearly complete near the coast.
4. 1933, September 8-21	North Carolina	Cape Hatteras 7 mph, New Bern and Beaufort 125 mph, E.	21	6	Heavy damage from Carteret County, N.C., to Virginia state line; high storm surge in Pamlico and Albermarle Sounds.
5. 1934, June 4-21	Louisiana	Morgan City, La. 68 mph	6	6	Property and crop damage was moderate.
6. 1934, Ju 21-25	Florida and Texas	Corpus Christi, Tex. 52 mph	11	6	Heavy rains severely damaged the Texas cotton crop.



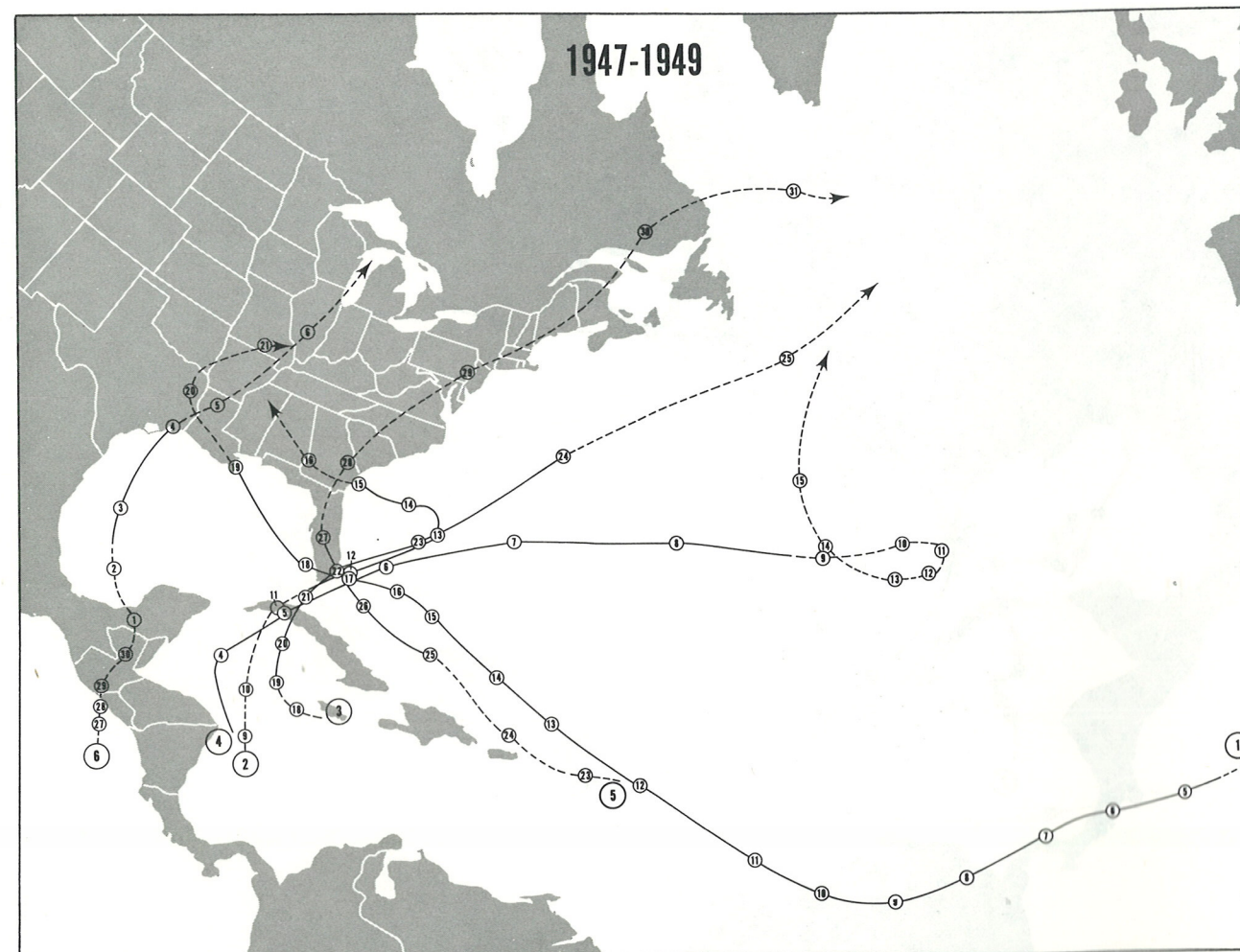
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1. 1935, August 29-September 10	Southern Florida	Tampa, Fla. 86 mph	408	7	"Labor Day Storm" — barometer reading of 26.35 inches on Long Key is lowest of record in the Western Hemisphere. Peak winds were estimated 150-200 mph on some Keys.
2. 1935, October 30-November 8	Southern Florida	Miami, Fla. 94 mph	5	7	"Yankee Storm"—so-called because it moved into the Miami area from the northeast. It was quite small—destructive winds covered only a narrow path.
3. 1938, September 10-22	Long Island, N.Y.; southern New England	Blue Hill, Mass. 121 mph ⁵ gust, 183 mph	600	8	Very heavy wind and storm surge damage in most of New England. Hurricane was moving forward at speeds up to 56 mph in this region.
4. 1940, August 5-15	Georgia and the Carolinas	Savannah, Ga. 90 mph	50	6	Heavy flooding in the southeastern States as far inland as Tennessee from hurricane-induced rains. Thirty deaths were due to floods.



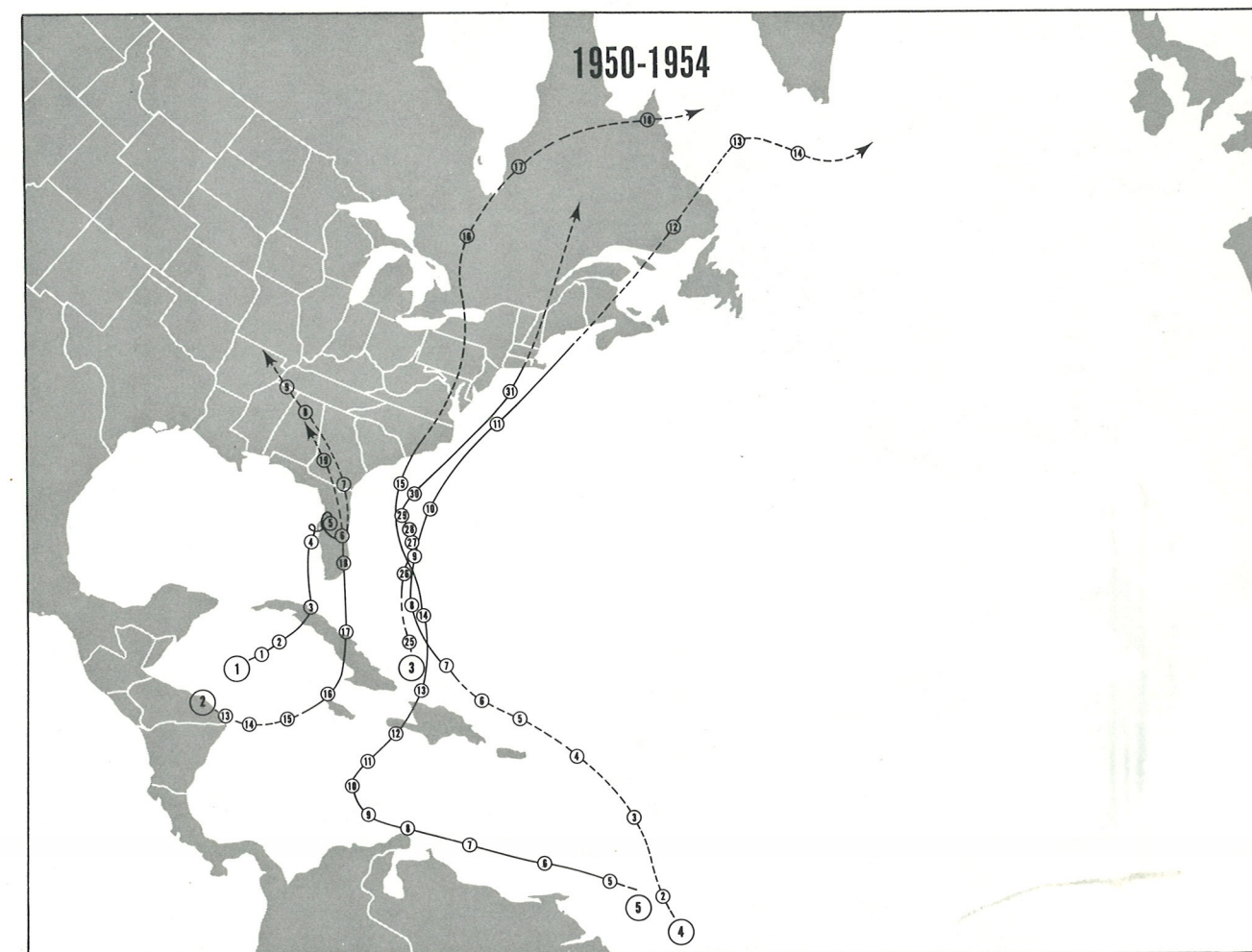
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1. 1941, September 16-25	Texas	Texas City, Texas gust, 83 mph	4	7	Very heavy crop damage. Most low exposed places evacuated in response to good warnings—resulting in low casualty figure.
2. 1944, September 9-16	North Carolina to New England	Cape Henry, Va. 134 mph gust, 150 mph †	46	8	Heavy damage.
3. 1944, October 12-23	Florida	Dry Tortugas, Fla. 120 mph ¹	18	8	Warnings and evacuation prevented heavier casualties.
4. 1945, September 11-20	Florida, Georgia and South Carolina	Carysfort Reef Light, 138 mph	4	8	Damage very heavy in Dade County (Miami), Fla. Evacuation of exposed locations prevented heavy loss of life.



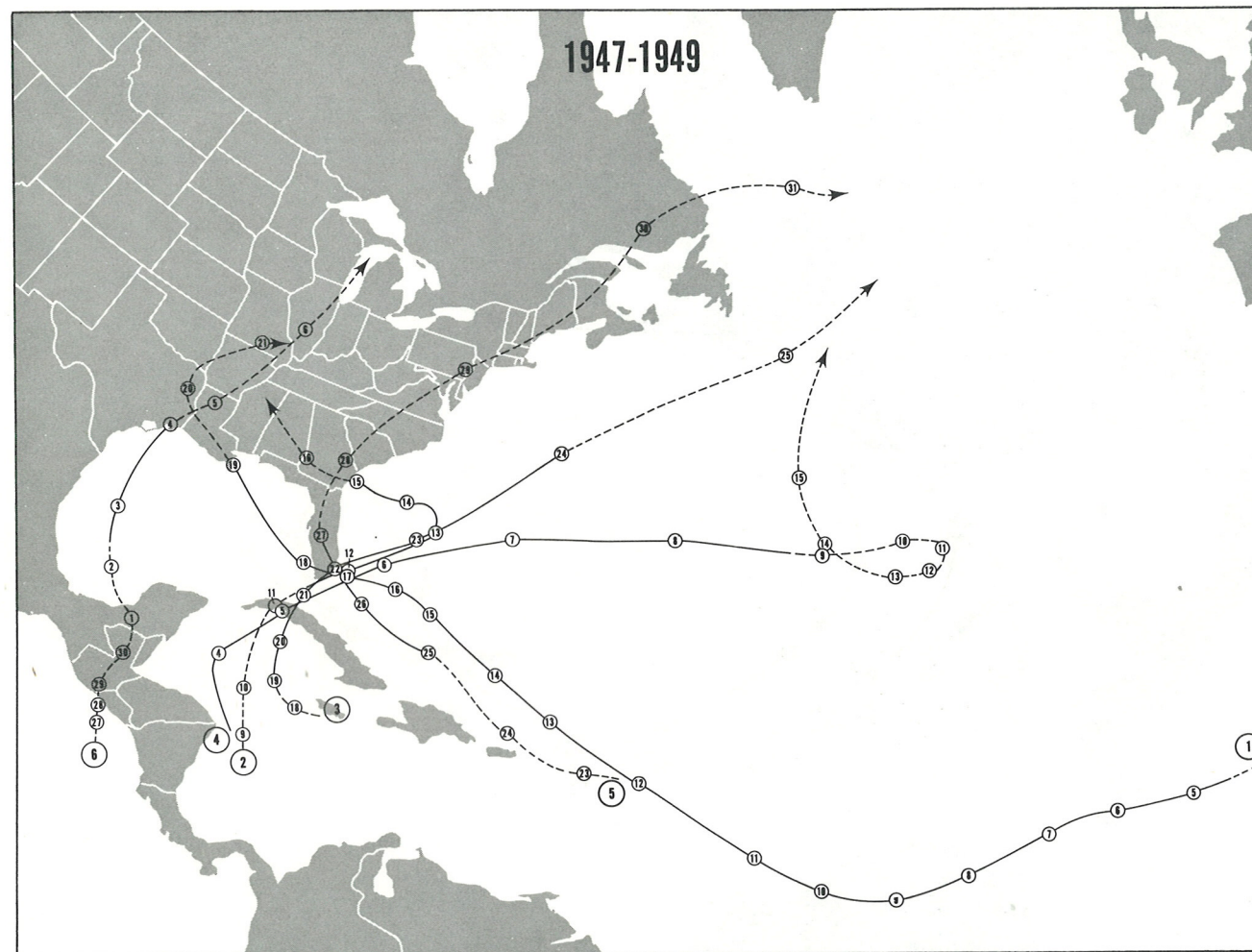
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1. 1947, September 4-21	Florida and Middle Gulf Coast	Hillsboro Light, Fla. 121 mph ¹ gust, 155 mph	51	8	Very large and intense storm. Wind and water damage heavy on Florida east coast and in Louisiana and Mississippi.
2. 1947, October 9-16	Southern Florida; Georgia and South Carolina	Hillsboro Light, Fla. 92 mph	1	6	Heavy to excessive rains in Florida climaxed a very wet season. Heavy damage also occurred in the Savannah, Ga. area from wind and along the South Carolina-Georgia coast from high tides.
3. 1948, September 18-25	Southern Florida	Key West A.P., Fla. 78 mph ¹	3	7	Many lulls and calms reported from widely separated points simultaneously; two lulls at some places near Okeechobee several hours apart.
4. 1948, October 3-15	Southern Florida	Sombrero Key, Fla. E 100 mph ¹	0	7	Damage not as great as could be expected, since much of area had been hit by September storm.
5. 1949, August 23-31	Florida to the Carolinas	West Palm Beach, Fla. 110 mph ⁵ + Juniper, Fla. gust 153 mph	2	8	Storm center passed over Lake Okeechobee. Levees built since 1928 prevented overflow and casualties.
6. 1949, September 27-October 6	Texas	Freeport, Tex. E 135 mph	2	7	Most of damage was to crops.



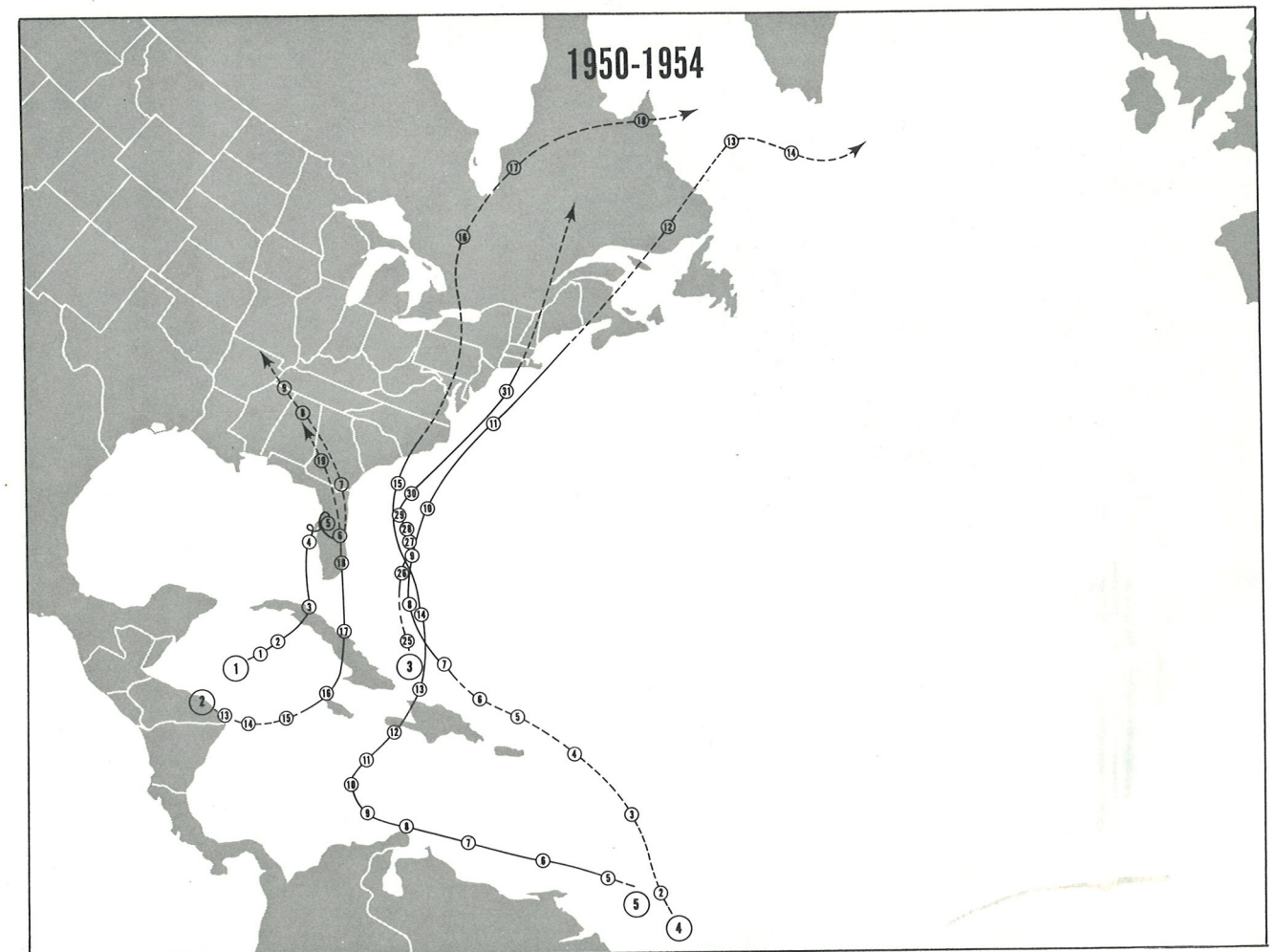
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1. 1950, September 1-9	Florida	Cedar Keys, Fla. gust, 125 mph	2	6	Unusual double loop in storm track in the Cedar Keys area. Coast from Sarasota northward suffered extensive wind and tide damage.
2. 1950, October 13-19 KING	Florida	Miami WBO, Fla. 120 mph ¹	4	7	A small violent storm which passed directly over Miami, then up the entire Florida peninsula.
3. 1954, August 25-31 CAROL	North Carolina to New England	Block Island, R. I. 100 mph gust, 135 mph	60	8	Property losses greatest in any single storm up to this date. Extremely high tides flooded many low-lying regions in New England.
4. 1954, September 2-14 EDNA	New Jersey to New England	Block Island, R. I. 87 mph Martha's Vineyard, Mass. gust 120 mph	21	7	Heavy damage again in New England.
5. 1954, October 5-18 HAZEL	South Carolina to New York	New York City WBO, 113 mph Wilmington, N. C. 82 mph	95	8	Heavy damage in exposed North Carolina shore areas due to wave action superimposed on high tides. Storm retained destructive intensity through Middle Atlantic States.



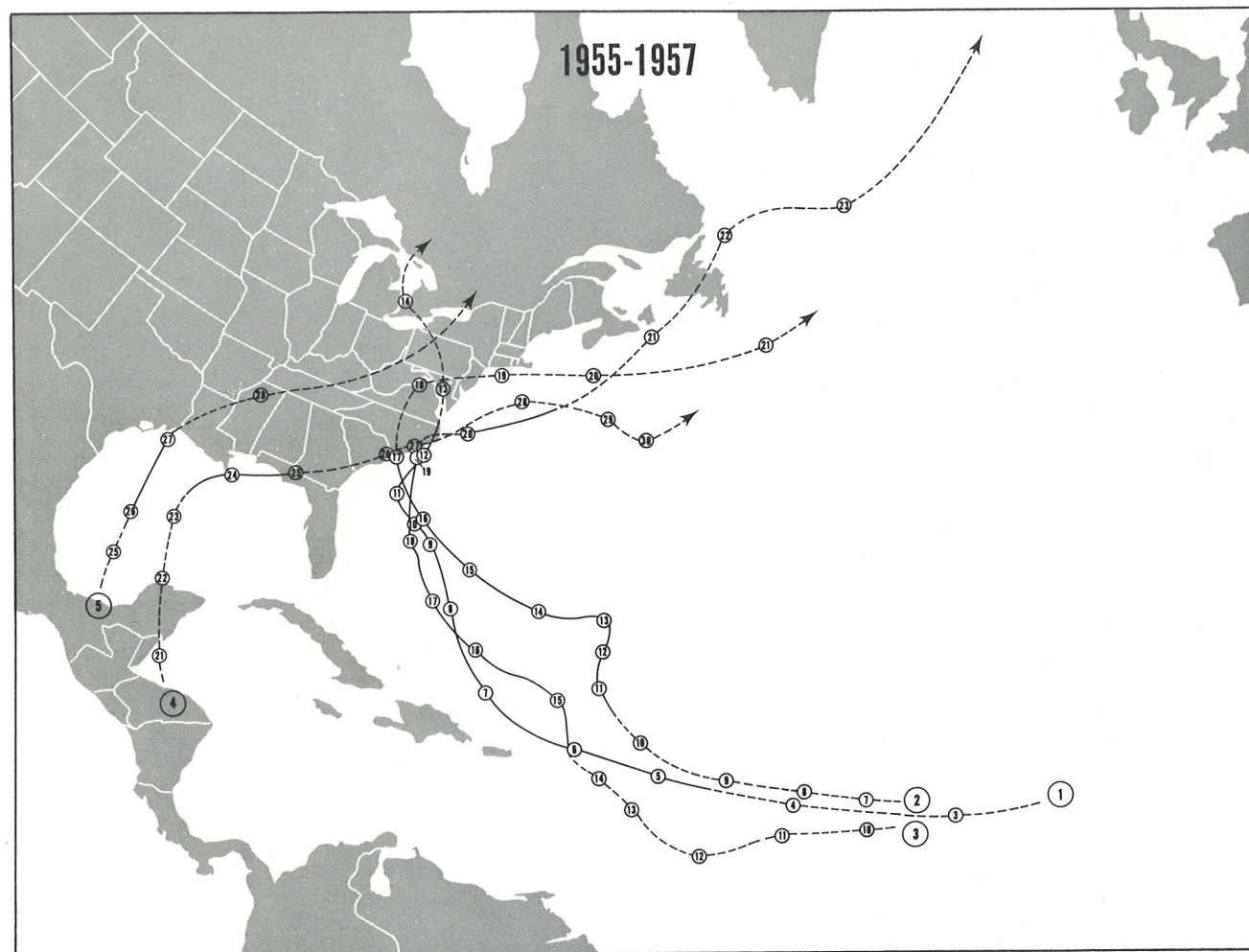
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5. 1949, August 23-31	Florida to the Carolinas	West Palm Beach, Fla. 110 mph ⁵ + Juniper, Fla. gust 153 mph	2	8	Storm center passed over Lake Okeechobee. Levees built since 1928 prevented overflow and casualties.
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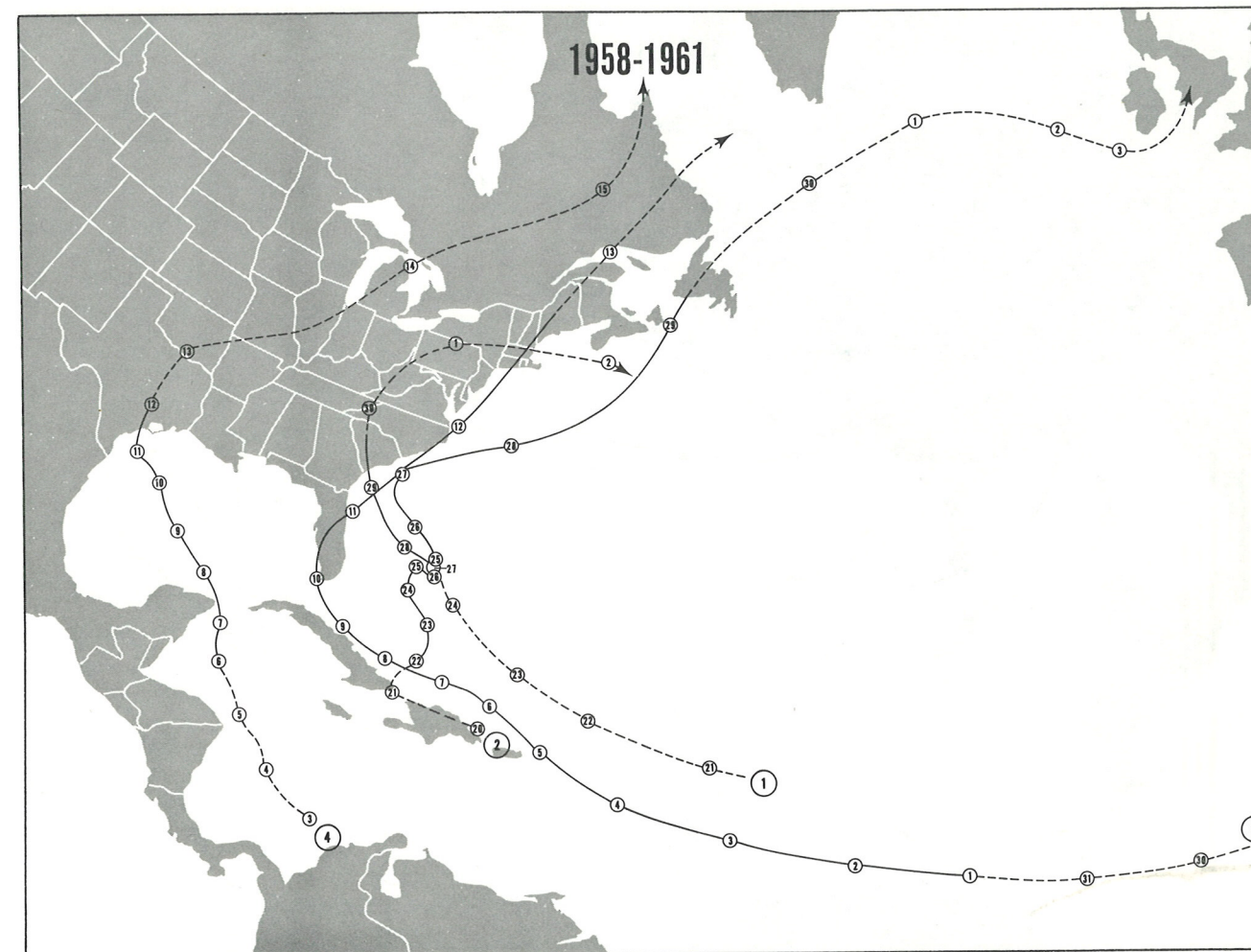
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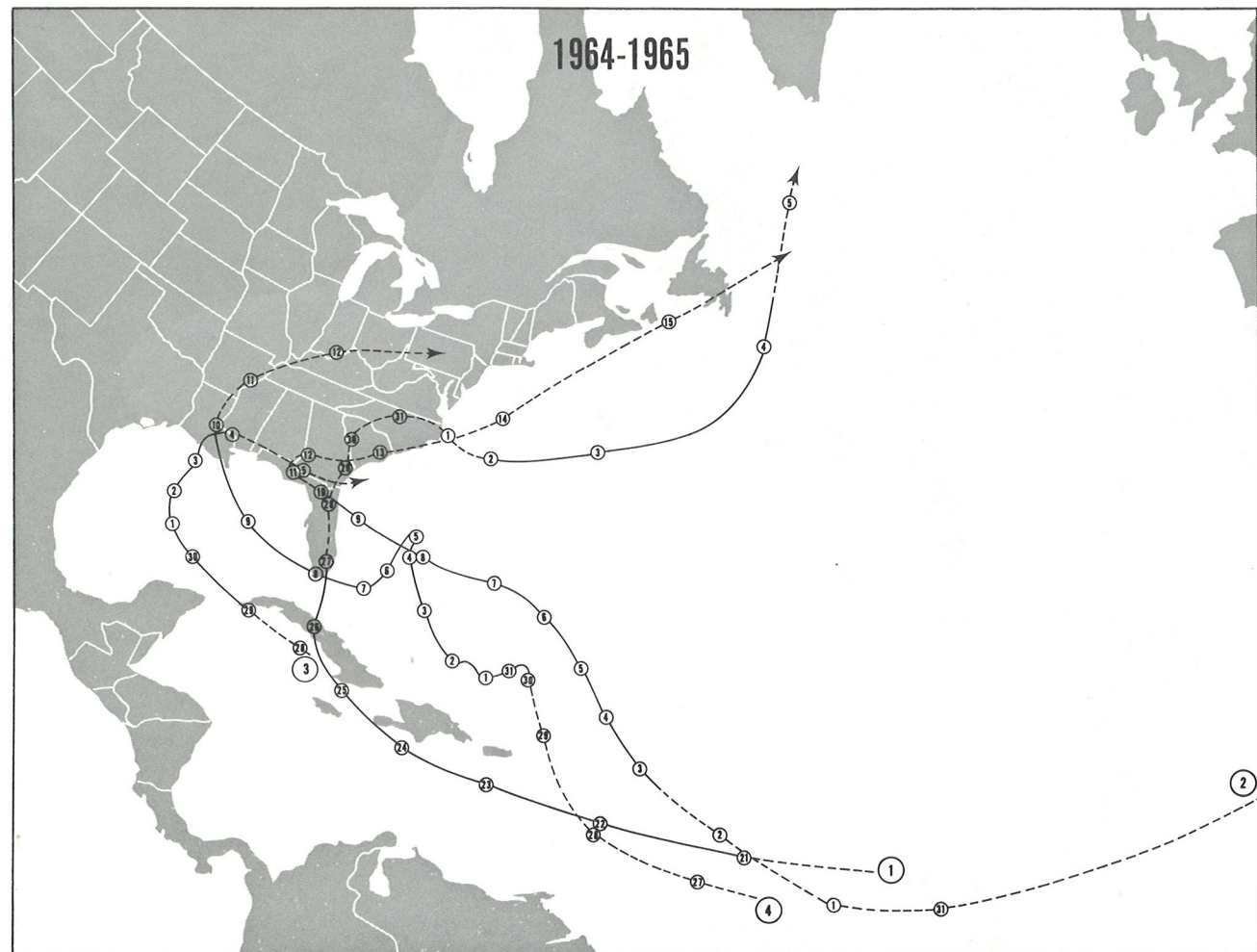
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1. 1955, August 3-14 CONNIE	North Carolina	Ft. Macon, N.C. 75 mph gust, 100 mph	25	8	Heavy rainfall from North Carolina to New England—varying from 6 inches at many stations to over 12 inches on western Long Island. This rainfall saturated the ground and filled the streams, thus setting the stage for Diane.
2. 1955, August 7-21 DIANE	North Carolina to New England	New York City WBO, 59 mph; Wilmington, N. C. gust, 83 mph	184	9	Heavy rainfall with near-maximum runoff caused general severe floods of entire north-east U.S. Damage exceeded any prior storm of record.
3. 1955, September 10-23 IONE	North Carolina	Cherry Point, N.C. 75 mph ⁵ gust, 107 mph	7	8	Third hurricane in eastern North Carolina within 5 weeks; 4th in 11 months.
4. 1956, September 21-30 FLOSSY	Louisiana to northern Florida	Burrwood, La. 88 mph ⁵ gust, 110 mph	15	7	Damage over area from New Orleans and mouth of Mississippi eastward to western Florida.
5. 1957, June 25-28 AUDREY	Texas to Alabama	Sabine Pass CG, Tex. 85 mph gust, 100 mph	371 La. 10 Tex.	8	Storm surge over 12 feet caused inundation of flat Louisiana coast by Gulf waters as far as 25 miles inland in some places. Many homes destroyed; off-shore oil installations heavily damaged.



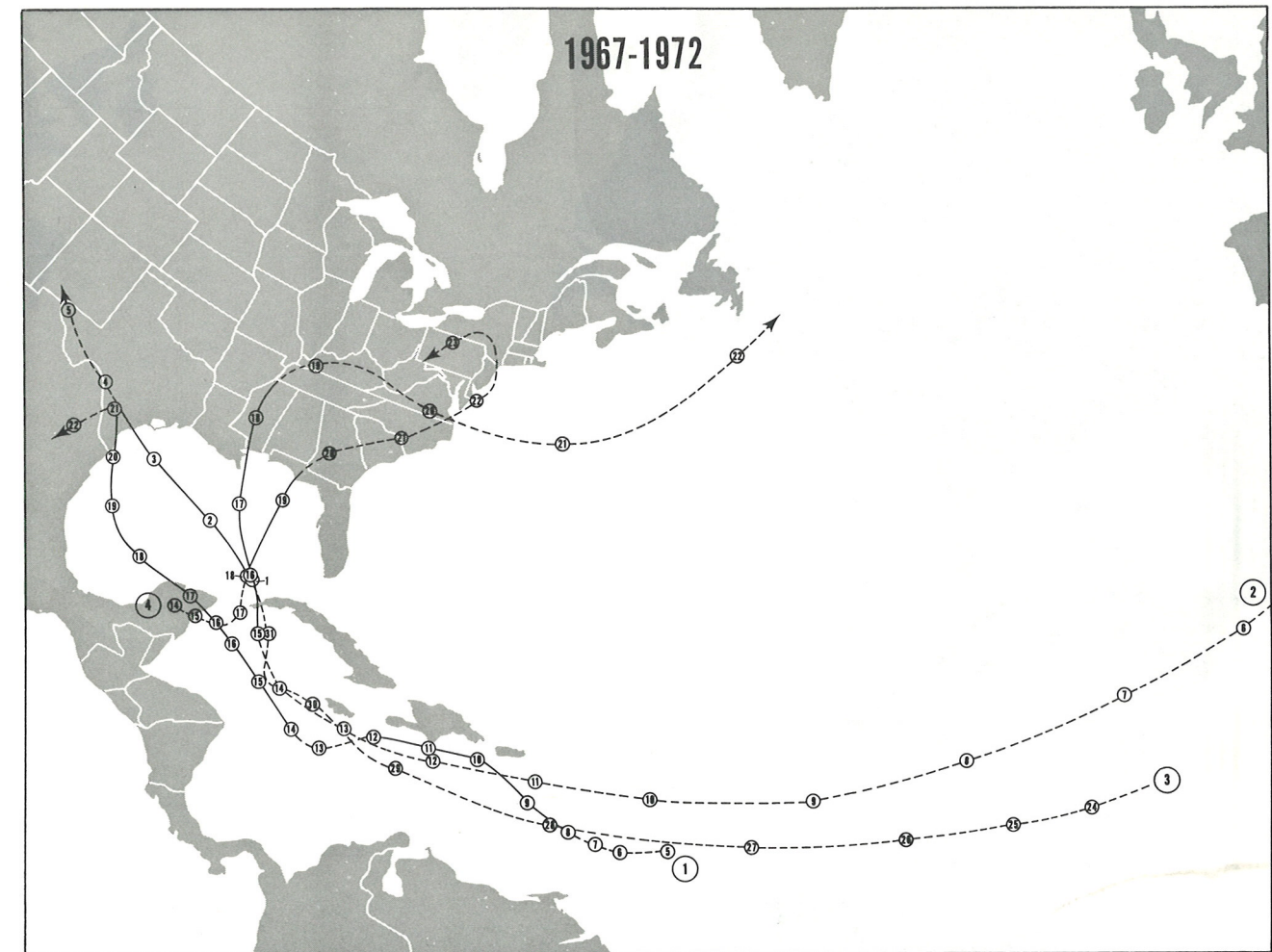
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1. 1958, September 21- October 7 HELENE	North Carolina	Wilmington, N.C. 88 mph gust, 135 mph, Cape Fear, N.C. E 125 mph, gust, 150-160 mph	0	7	Center remained at sea. Record winds and low pressure at Wilmington. Strongest winds were offshore and occurred at time of low tide, greatly reducing water and wave damage.
2. 1959, September 20- October 2 GRACIE	South Carolina to Virginia	Beaufort, (MCAAS), S.C. 95 mph ⁵ , gust, 138 mph	22	7	Heavy property and crop damage in South Carolina. Twelve deaths were in associated tornado in Virginia.
3. 1960, August 29- September 13 DONNA	Florida to New England	Block Island, R.I. 95 mph gust, 130 mph. Ft. Myers, Fla. 92 mph, Cape Henry, Va. 80 mph	50	8	Record amount of damage in Florida. First storm with hurricane force winds in Florida, Middle Atlantic States, and New England in 75-year record. Winds estimated near 140 mph, with gusts 175-180 mph on central Florida Keys.
4. 1961, September 3-15 CARLA	Texas	Port Lavaca and Matagordo, Tex. E 145 mph. Gust, Port Lavaca, 153 mph ⁷ , E 175 mph	46	8	Largest and most intense Gulf coast hurricane in many years. Severe damage along wide expanse of Texas coast from unusually prolonged winds, high tides and flooding.



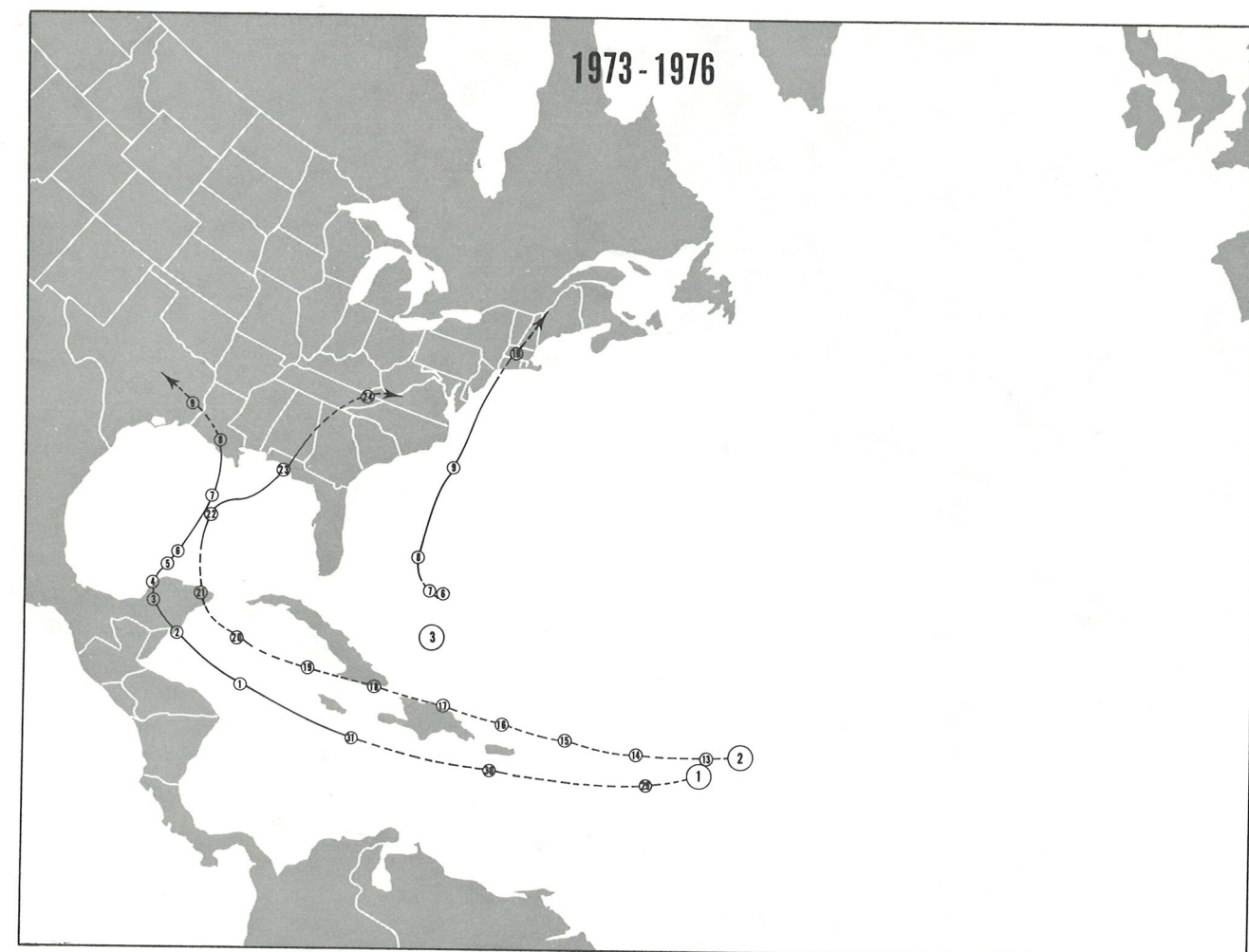
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1. 1964, August 20-September 5, CLEO	Southern Florida, Eastern Virginia	Miami, Fla., E 110 mph	0	8	First hurricane in Miami area since 1950. Moderate wind damage extensive along Florida lower east coast. Record rainfall and wide-spread flooding from Hampton Roads area southward in Virginia. Tornadoes in southeast Florida and the Carolinas.
2. 1964, August 28-September 16, DORA	Northeastern Florida, Southern Georgia	St. Augustine, Fla., E 125 mph	5	8	First storm of full hurricane force on record to move inland from the east over Northeastern Florida.
3. 1964, September 28-October 5, HILDA	Louisiana	Franklin, La., E 135 mph	38	8	Damage from winds and rains extensive. Offshore oil facilities damaged by winds and waves. Several tornadoes caused most of the fatalities.
4. 1965, August 27-September 12, BETSY	Southern Florida, Louisiana	Port Sulphur, La. 136 mph	75	9	Much of the damage was caused by flooding, particularly in Louisiana.



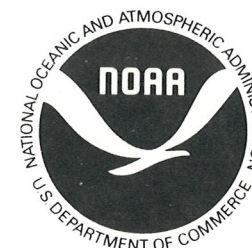
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1. 1967, September 5-22, BEULAH	Southern Texas	Brownsville, Texas, gust, 109 mph measured with damaged anemometer.	15	8	Major floods in southern Texas, killing 10 people and causing most of damage. Record number of tornadoes — 155 — which killed 5 persons.
2. 1969, August 14-22, CAMILLE	Mississippi, Louisiana, Alabama, Virginia, W. Virginia	Gulfport, Miss., E 100 mph, gusts 150-175 mph;	255 dead 68 missing	9	Storm tide up to 24.2 feet above sea level in the Pass Christian-Long Beach, Miss. area. 27 inches of rain in 8 hours caused severe flash floods in Virginia resulting in 109 deaths with 41 persons missing.
3. 1970, July 23-August 5, CELIA	Texas	Corpus Christi, Tex. 130 mph, Gusts 161 mph	11	7	Greatest damage in west to east streaks where maximum gusts occurred. Costliest hurricane ever to strike Texas.
4. 1972, June 14-23, AGNES	Florida to New York	Key West, Fla. 43 mph; Jacksonville, Fla. gusts 56 mph. Storm tide 6.4 ft. above normal Apalachicola, Fla.	122	9	One of the costliest natural disasters in U.S. history — \$2.0 billion. Devastating floods from North Carolina to New York with many recordbreaking river crests. Tornadoes—15 in Florida and 2 in Georgia.



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1. 1974, August 29 September 10 CARMEN	Southern Louisiana	Morgan City, La. 86 mph	1	8	Primarily to sugar cane crop.... also off-shore oil installations and the shrimping industry.
2. 1975, September 13-24 ELOISE	Florida Panhandle and eastern Alabama	5 miles northwest of Ozark, Ala., 104 mph	4	8	Major (almost total) storm surge and wind damage to structures along beach strip from Fort Walton Beach to Panama City, Fla. High winds destroyed property and crops over eastern Alabama. Flooding and miscellaneous damage from heavy rains over northeastern U.S.
3. 1976, August 6-10 BELLE	New York, New Jersey, and southern New England	Bridgeport, Conn., gusts to 77 mph	5	8	Crop damage in the Northeast, some caused by salt spray. Considerable inland stream and road flooding. Estimate half-million persons evacuated coastal areas.



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